

# Patent Priority List - Scoresheet

High 20 Dat : February 2000

ATTACHMENT G

IL #: 10507 Directorate: PAT

Inventors: Eric C. Honea, Raymond J. Beach

Title: Optical Coatings for Parasitic Suppression with Near Unity Low Angle Reflectivity

Non-LLNL  
Inventors:

(Check all that apply)

High 20 Priority:

5

☒ Recommended for the Top 20

☒ Important technical invention

☒ Commercial value

☒ Significant Programmatic interest

☒ Important LLNL portfolio (e.g. Aerogels)

☒ Proof of concept exists

☐ CRADA BIP

☐ CRADA Subject Invention

☐ License executed

☐ License in negotiation

☐ Commercial interactions/marketing

☐ Other time factors (bar date, provisional)

Selected by IPAC for Top 20 (Weis/Dunipace)

Added to Top 20 List February 24,

Bar Dat s:

Search Completed

Portfolio

Provisional filing date:

Publication Date:

Business Specialist:

Bill Grant

Additional comments (Specialist/Program Rep)

This invention has the potential to radically optimize the engineering details for constructing solid state lasers that have strong commercial, industrial, and government appeal. Specifically, by using transparent optical coatings of controlled index, they have demonstrated a laser gain element with total-internal reflection used to confine pump light while suppressing parasitic oscillations, which would otherwise deplete the stored energy. What's impressive about this disclosure is that they present a "total" system solution, whereas, other researchers over the last two decades have put together bits and pieces of solutions for the problems in this generic technical area, the LLNL researchers have delivered a comprehensive system answer. **Ralph:** The first IL gives a description of a generic compact ion accelerator that, because of its compactness and potential for relative cost savings over prior embodiments, may be effectively applied to the treatment and eradication of cancers. The second IL is an improvement over the first one in that it guides the laser beam to the precise point of application, a few millimeters away from the target site, to generate the requisite proton beam. In this way the direct irradiation of a targeted area, in situ for medical use, also reduces the required proton energy to the order of 1 MeV. This energy is in contrast to energies of 100-200 MeV, in the earlier embodiment, that are necessary to travel the 10-20 cm distances for the method of treatment that begins external to the patient. Thus, in the second IL, the ion source and laser beam are unified into a single integrated unit.

NEW IL's REPORT  
NOVEMBER 2003

Directorate	IL Number Inventor/Title	Priority #	Review Comments	Review Action Items
PAT (Lasers)	10507 Eric C. Honea, Raymond J. Beach	1	•5/6/99: RJ-Haven't had a chance to talk to Ray Beach. This is a Top 20. Feel there's some difference from the prior case. Has two unique engineering features not previously done. •6/3/99: Priority 1.	•5/6/99: JW-Talk to Ray Beach. •6/3/99: Priority 1.
Month 5/1/99	Patents John Wooldridge IP&C Bert Weis Amal Moulik	Revisits May99 June99	JW-Would like to talk to the inventors. There is some art. A case I wrote a while back is pretty close on point.	
No Interest by IPAC	BDE Bill Grant		•6/3/99: JW-New in the sense there is a difussing coating on the outside of the surface. Patentable, but we may encounter obviousness issues. If it gets specific enough, we can patent it. Honeau thinks its new, but it will be a hard fight. RJ-Top 20 material. A practical system because it's geometrically specific. CT-Think there are alot of cases that are more important. BW-Priority 1.	
Account Nos. 4720-35	<input type="radio"/> Requires Review Revisit <input type="radio"/> Requires Review Abeyance <input type="radio"/> Inactivate <input type="radio"/> No Interest <input type="radio"/> Priority 1 <input checked="" type="radio"/> Refer to DOE <input type="radio"/> Waive & File <input type="radio"/> Waive	Provisional <input type="text"/> Filing Date 12/29/2000		Waive and File
	Rights Requested 3/15/2000 Rights Granted 5/4/2000	Priority List 2/24/00		